



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-3753; Directorate Identifier 2015-NE-26-AD]

RIN 2120-AA64

Airworthiness Directives; Turbomeca S.A. Turboshift Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede airworthiness directive (AD) 2016-04-12 that applies to certain Turbomeca S.A. Arriel 2B, 2B1, 2C, 2C1, 2C2, 2D, 2E, 2S1, and 2S2 turboshift engines. AD 2016-04-12 requires spectrometric oil analysis (SOA) inspection of the engine accessory gearbox (AGB), and, depending on the results, removal of the engine AGB. Since we issued AD 2016-04-12, we determined that wear inspections of the engine AGB cover are also required. This proposed AD would require initial and repetitive inspections of the AGB, and wear inspections of the engine AGB cover. We are proposing this AD to prevent failure of the engine AGB, uncommanded in-flight shutdown (IFSD), damage to the engine, and damage to the helicopter.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Turbomeca S.A., 40220 Tarnos, France; phone: 33 0 5 59 74 40 00; fax: 33 0 5 59 74 45 15. You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-3753; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the mandatory continuing airworthiness information, regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Philip Haberlen, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7770; fax: 781-238-7199; email: philip.haberlen@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this NPRM. Send your comments to an address listed under the ADDRESSES section.

Include “Docket No. FAA-2015-3753; Directorate Identifier 2015-NE-26-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this NPRM.

Discussion

On February 18, 2016, we issued AD 2016-04-12, Amendment 39-18406 (81 FR 12583, March 10, 2016), (“AD 2016-04-12”) for certain Turbomeca S.A. Arriel 2B, 2B1, 2C, 2C1, 2C2, 2D, 2E, 2S1, and 2S2 turboshaft engines. AD 2016-04-12 requires an SOA inspection, and, depending on the results, removal of the engine AGB. AD 2016-04-12 resulted from a report of an uncommanded IFSD of an Arriel 2S2 engine caused by rupture of the 41-tooth gear, which forms part of the bevel gear in the engine AGB. We issued AD 2016-04-12 to prevent failure of the engine AGB, uncommanded IFSD, damage to the engine, and damage to the helicopter.

Actions Since AD 2016-04-12 Was Issued

Since we issued AD 2016-04-12, Turbomeca recommended that an engine AGB cover wear inspection be performed. Also, the European Aviation Safety Agency issued AD 2016-0055, dated March 17, 2016, which requires initial and repetitive SOA inspections of the AGB and initial and repetitive wear inspections of the engine AGB cover.

Related Service Information under 1 CFR Part 51

Turbomeca S.A. has issued Mandatory Service Bulletin No. 292 72 2861, Version C, dated March 9, 2016. The service information describes procedures for performing periodic SOA and wear inspections of the engine AGB. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA's Determination

We are proposing this NPRM because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This NPRM would require initial and repetitive SOA, wear inspections of the engine AGB cover, and AGB replacement based on the results of the inspections.

Costs of Compliance

We estimate that this proposed AD affects 250 engines installed on helicopters of U.S. registry. We also estimate that it would take 0.5 hours per engine to perform the SOA and 1 hour to perform the engine AGB cover wear inspection. The average labor rate is \$85 per hour. Required parts for inspection and analysis cost about \$3,179 per engine. We estimate that 5 engines will require AGB replacement at a cost of \$44,397 per engine. We also estimate that it would take about 2 hours to replace the engine AGB. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be \$1,049,460.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator.

Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing airworthiness directive (AD) 2016-04-12, Amendment 39-18406 (81 FR 12583, March 10, 2016) (“AD 2016-04-12”), and adding the following new AD:

Turbomeca S.A.: Docket No. FAA-2015-3753; Directorate Identifier 2015-NE-26-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD supersedes AD 2016-04-12.

(c) Applicability

This AD applies to Turbomeca S.A. Arriel 2B, 2B1, 2C, 2C1, 2C2, 2D, 2E, 2S1, and 2S2 turboshaft engines with an engine accessory gearbox (AGB), part number 0292120650, with a machined front casing.

(d) Unsafe Condition

This AD was prompted by a report of an uncommanded in-flight shutdown (IFSD) of an Arriel 2S2 engine caused by rupture of the 41-tooth gear, which forms part of the bevel gear in the engine AGB. We are issuing this AD to prevent failure of the engine AGB, uncommanded IFSD, damage to the engine, and damage to the helicopter.

(e) Compliance

Comply with this AD within the compliance times specified, unless already done.

(1) Initial Spectrometric Oil Analysis (SOA) and Engine AGB Cover Wear Inspection

(i) Perform an SOA and an engine AGB cover wear inspection before the engine AGB, module M01, exceeds 850 engine hours (EH) since new or since last overhaul (SLO), or within 50 EH after April 14, 2016, or before the next flight after the effective date of this AD, whichever occurs later.

(ii) Reserved.

(2) Repetitive Inspection Intervals

(i) Repeat the SOA within every 100 EH since the last SOA.

(A) For all affected engines, if the last SOA was performed before the effective date of this AD, and the aluminum concentration level is 0.8 parts per million (p/m) or greater, perform a wear inspection of the engine AGB cover within 50 EHs since last SOA or before the next flight after the effective date of this AD, whichever occurs later.

(B) For all affected engines, if the last SOA was performed after the effective date of this AD, and the aluminum concentration level is 0.8 p/m or greater, perform a wear inspection of the engine AGB cover within 20 EH since the last SOA.

(ii) For Arriel 2E engines, repeat the engine AGB cover wear inspection within every 800 EH since last inspection (SLI) if the SOA indicated the aluminum concentration level is less than 0.8 p/m.

(iii) For all affected engines, except for Arriel 2E engines, repeat the engine AGB cover wear inspection within every 600 EH SLI if the SOA indicated the aluminum concentration level is less than 0.8 p/m.

(3) Inspection Criteria

(i) Use paragraph 2.4.2.1 and 2.4.2.2 of Turbomeca Mandatory Service Bulletin (MSB) No. 292 72 2861, Version C, dated March 9, 2016, to do the inspections required by paragraphs (e)(1) and (2) of this AD.

(ii) Reserved.

(4) Corrective Actions Based on the Results of the Most Recent Wear

Inspection

(i) If the wear measured from the most recent wear inspection is 0.15 mm or less, no further action is required. However, you must still comply with the repetitive inspection requirements of paragraph (e)(2) of this AD.

(ii) If the most recent wear inspection was performed while the engine was in service, and the wear is greater than 0.15 mm, do the following:

(A) If the wear measured from the most recent wear inspection is greater than 0.15 mm, but 0.30 mm or less, remove the engine AGB from service within 200 EH SLI and replace with a part eligible for installation.

(B) If the wear measured from the most recent wear inspection is greater than 0.30 mm, but 0.40 mm or less, remove the engine AGB from service within 25 EH SLI and replace with a part eligible for installation.

(C) If the wear measured from the most recent wear inspection is greater than 0.40 mm, remove the engine AGB from service before further flight and replace with a part eligible for installation.

(iii) If the most recent wear inspection was performed on the engine during an engine shop visit, and the wear is greater than 0.15 mm, remove the engine AGB before further flight and replace with a part eligible for installation.

(f) Definition

For the purpose of this AD, an engine shop visit is defined as the induction of an engine into the shop for maintenance involving the separation of any major mating

engine flanges, except that the separation of engine flanges solely for the purposes of transportation without subsequent engine maintenance does not constitute an engine shop visit.

(g) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

(h) Related Information

(1) For more information about this AD, contact Philip Haberlen, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7770; fax: 781-238-7199; email: philip.haberlen@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency AD 2015-0055, dated March 17, 2016, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2015-3753.

(3) Turbomeca S.A. MSB No. 292 72 2861, Version C, dated March 9, 2016, can be obtained from Turbomeca S.A., using the contact information in paragraph (h)(4) of this AD.

(4) For service information identified in this AD, contact Turbomeca S.A., 40220 Tarnos, France; phone: 33 0 5 59 74 40 00; fax: 33 0 5 59 74 45 15.

(5) You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on June 8, 2016.

Colleen M. D'Alessandro,
Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

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